In the Claims

Claim 1 (Previously amended): A construct for post-transcriptional control of expression of a gene encoding a protein, wherein said construct comprises a polynucleotide encoding said protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 2 (Cancelled)

Claim 3 (Previously amended): The construct of claim 1, wherein said carbohydrate comprises glucose, 3-O-methylglucose, 2-deoxyglucose, or a combination of any of the foregoing.

Claim 4 (Previously amended): The construct of claim 1, wherein said construct is a plasmid.

Claim 5 (Previously amended): The construct of claim 1, wherein said construct is a virus.

Claim 6 (Previously amended): The construct of claim 1, wherein said construct is a retrovirus.

Claim 7 (Previously amended): The construct of claim 1, wherein said construct is a naked DNA sequence.

Claims 8-18 (Cancelled)

Claim 19 (Previously amended): A method of screening for mutations of a carbohydrate responsive mRNA instability element, said method comprising:

obtaining a DNA sample from a subject potentially having a mutation of the carbohydrate responsive mRNA instability element;

sequencing said DNA sample; and

detecting mutations within the carbohydrate responsive instability element.

Claim 20 (Previously amended): A recombinant cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 21 (Currently amended): A primer comprising a nucleic acid sequence capable of ~~recognizing and binding~~ hybridizing to at least 15 consecutive bases of a nucleotide sequence encoding a carbohydrate responsive mRNA instability element.

Claim 22 (Previously amended): A kit for detecting a carbohydrate responsive mRNA instability element, said kit comprising multiple separate containers wherein each of said separate containers comprise:

a set of primers for PCR detection of a polynucleotide encoding the carbohydrate responsive mRNA instability element, and optionally a positive control comprising said polynucleotide encoding the carbohydrate responsive mRNA instability element.

Claim 23 (Currently amended): A nucleic acid probe comprising a DNA sequence ~~having affinity for~~ capable of hybridizing to at least 15 consecutive bases of a polynucleotide encoding a carbohydrate responsive mRNA instability element.

Claim 24 (Previously amended): A host cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate

responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 25 (Previously amended): A replicable vector comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 26 (Previously added): The construct of claim 1, wherein said protein comprises β-globin.

Claim 27 (Previously added): The recombinant cell of claim 20, wherein said protein comprises β-globin.

Claim 28 (Previously added): The host cell of claim 24, wherein said protein comprises β-globin.

Claim 29 (Previously added): The replicable vector of claim 25, wherein said protein comprises β-globin.

Claim 30 (Previously added): A construct for post-transcriptional control of expression of a gene encoding a protein, wherein said construct comprises a polynucleotide encoding said protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 31 (Previously added): The construct of claim 30, wherein said carbohydrate comprises glucose, 3-O-methylglucose, 2-deoxyglucose, or a combination of any of the foregoing.

Claim 32 (Previously added): The construct of claim 30, wherein said carbohydrate comprises glucose.

Claim 33 (Previously added): The construct of claim 30, wherein said construct is a plasmid.

Claim 34 (Previously added): The construct of claim 30, wherein said construct is a virus.

Claim 35 (Previously added): The construct of claim 30, wherein said construct is a retrovirus.

Claim 36 (Previously added): The construct of claim 30, wherein said construct is a naked DNA sequence.

Claim 37 (Previously added): The construct of claim 30, wherein said protein comprises β-globin.

Claim 38 (Previously added): A method of screening for mutations of a carbohydrate responsive mRNA instability element, said method comprising:

obtaining a DNA sample from a subject, wherein said DNA sample comprises the nucleotide sequence of SEQ ID NO:9 or a mutation of said nucleotide sequence;

sequencing said DNA sample; and

detecting mutations within said nucleotide sequence.

Claim 39 (Currently amended): A primer comprising a nucleic acid sequence capable of ~~recognizing and binding~~ hybridizing to at least 15 consecutive bases of the sequence of SEQ ID NO:9.

Claim 40 (Previously added): A kit for detecting a carbohydrate responsive mRNA instability element, said kit comprising multiple separate containers wherein each of said separate containers comprise:

a set of primers for PCR detection of a polynucleotide sequence encoding the carbohydrate responsive mRNA instability element, wherein said polynucleotide sequence comprises SEQ ID NO:9; and optionally a positive control comprising said polynucleotide sequence of SEQ ID NO:9.

Claim 41 (Currently amended): A nucleic acid probe comprising a DNA sequence having affinity for the polynucleotide sequence of SEQ ID NO:9, wherein said nucleic acid probe is capable of hybridizing to at least 15 consecutive bases of said polynucleotide sequence of SEQ ID NO:9.

Claim 42 (Previously added): A host cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 43 (Previously added): The host cell of claim 42, wherein said protein comprises β-globin.

Claim 44 (Previously added): A replicable vector comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 45 (Previously added): The replicable vector of claim 44, wherein said protein comprises β-globin.

Claim 46 (Previously added): A recombinant cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

Claim 47 (Previously added): The recombinant cell of claim 46, wherein said protein comprises β-globin.